

R23

SYNTEX-VERONA PLANT
EXCAVATION VOLUME ESTIMATION REPORT

Site:	Syntex Verona
#:	MOD007452154
Break:	16
Other:	N/D

The Syntex-Verona facility (refer to Figure 1) contains areas contaminated with TCDD. In January 7, 1986 Syntex Agribusiness, Inc. submitted the Verona Plant Sampling and Analysis Plan which characterizes the site as a whole (Grid sampling) and by various subsites (trench, burn, lagoon spill, irrigation and slough areas and area adjacent the north fence line.) The results of this plan have been used in estimating soil volumes to be excavated based on four scenarios, described in Attachment 1. The total volume to be excavated at the Syntex-Verona plant, based on the four scenarios, is shown on Table 1.

Table 1

<u>Scenario Number</u>	<u>Scenario Description</u>	<u>Volume (cu. yd.)</u>
1	Syntex Preferred "Remedial Alternative"	0
2	Residential Clean Up Level - 1 ppb	16440
3	Commercial Clean Up Level - 20 ppb	2970
4	Combined Res./Comm. Clean Up Level	3890

A more detailed breakdown of the excavation estimates is shown in Table 2. Calculations and sampling maps used in estimating soil excavation volumes are provided in the Appendix.

The referenced sampling and analysis plan data was used due to its availability and extensive one time characterization of site related TCDD contamination. Other, primarily historic, data is available however was not used in this report. It must also be understood that the given volumes are rough estimates and based on good engineering judgement.



40030272
SUPERFUND RECORDS

TABLE 2

Subsite	Volume (cu. yd.)			
Scenario #	1	2	3	4
Trench Area	0	0	0	0
Slough Area	0	940	0	940
Irrigation Area	0	108	18	18
Spill Area	0	200	0	0
Lagoon Area	0	6167	2933*	2933*
Burn Area	0	43	22*	22*
Area Adjacent North Fence	0	93	0	0
Whole Site Grid Sampling	0	8889	0	0
	0	16440	2973	3891

* totally or partially based on samples below the surface, i.e. where the surface sample was less than 20 ppb TCDD and the sample at depth was greater than greater than 20 ppb TCDD.

FILE NO.

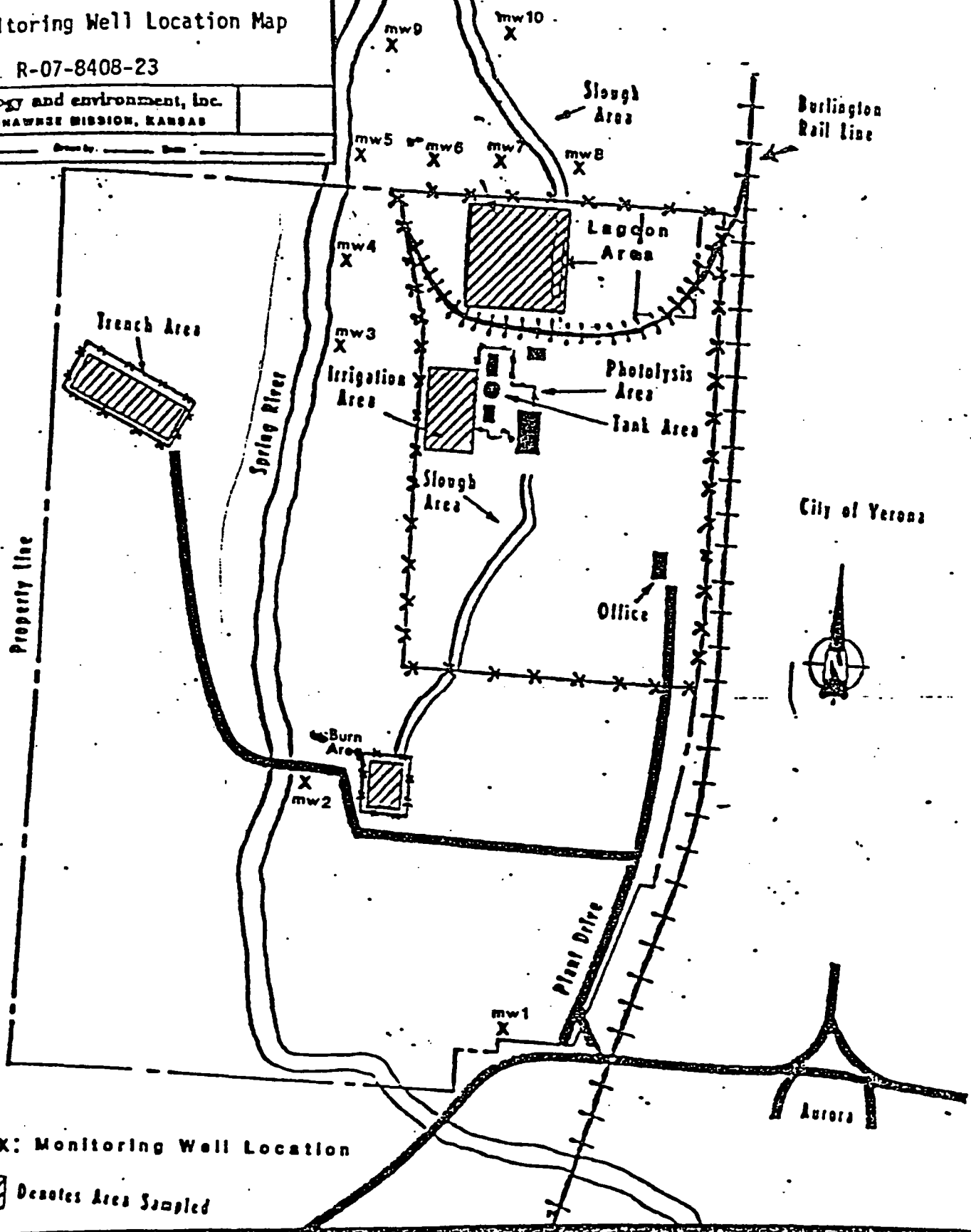
Monitoring Well Location Map

E.P.A. R-07-8408-23

ecology and environment, inc.
SHAWNEE MISSION, KANSAS

Date _____ Drawn by _____ Scale _____

SYNTEX FACILITY, VERONA, MO



ATTACHMENT 1

"Remedial Scenarios to Excavate TCDD Contaminated Soil at the Syntex-Verona Site"

Scenario #1 - Based on the Syntex recommended remedy described in the "Remedial Alternatives Report," no soil will be excavated. Refer to Attachment 2, Table 5 from the "Report."

Scenario #2 - Residential Area Clean Up Levels have been previously implemented by EPA and as described by CDC will remove all soil containing to 1 ppb TCDD up to a 4-foot depth or to bedrock.

Scenario #3 - Commercial Area Clean Up Levels are proposed by CDC as the recommended action at "non-residential" sites and will remove all soil containing to 20 ppb TCDD up to a 4-foot depth or to bedrock.

Scenario #4 - A combined Residential/Commercial Area Clean Up Level would most likely be recommended at the described facility. The Slough Area which lies outside the site boundaries would be considered as a "residential area" (clean up to 1 ppb) since it may present an exposure point to children and has been used for the grazing of cattle. The other portions of the site, within the Syntex-Verona Plant boundaries, would be considered as part of the commercial facility (clean up to 20 ppb).

TABLE 5: Summary of Proposed Remedial Alternatives

AREA	Proposed And Recommended (*) Remedial Alternatives
a. Grid Area	a. *Maintain vegetation.
b. Burn Area	b. *Fill in depression and maintain vegetation.
c. Spill Area	c. *Remove gravel, backfill with topsoil, and establish vegetation.
d. Irrigation Area	d. *Maintain vegetation.
e. Trench Area	e. Regrade surface, install 6" topsoil cover and reestablish vegetation.
f. Lagoon Area	f. *1. Install 6" topsoil cover, and reestablish vegetation. 2. Resample, excavate soil contaminated with 3 ppm or greater TCDD plus 6" extra, backfill with soil, cover with 6" of topsoil, and reestablish vegetation. 3. Excavate "hot zone", backfill with soil, cover with 6" of topsoil, and reestablish vegetation.
g. Slough Area	g. *1. No action unless fish or sediment samples increase in TCDD concentration. 2. Place a 6" layer of 1" stone in slough channel and cover with a 12" layer of 6" stone. 3. Install a geotextile liner beneath the 1" stone in Alternative 2. 4. Remove vegetation, install a geotextile liner beneath a 12" layer of 1" stone, backfill with clay, grade for a gradual surface swale, and reestablish vegetation. 5. Remove vegetation, backfill slough channel with clay, grade for the gradual surface drainage swale, and reestablish vegetation.
h. Old NEPACCO Equipment	h. *Clean, wipe test, and determine proper disposal or reuse conditions.
i. Photolysis Equipment	i. *Solvent rinse, acid rinse, water rinse, disassemble, inspect, wipe test, and determine proper disposal or reuse conditions.
j. Groundwater	j. *Convert to a routine quarterly RCRA monitoring program with only certain analyses to be performed.
k. Solvents and Washes	k. *Hold solvents for eventual disposal. Treat aqueous washes to remove TCDD to less than 1 ppt before disposal.